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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 30 titles deal with a variety of topics, including the following: (1) effects of graphic organizers, textual organization, and reading comprehension level on recall of expository prose; (2) the effect of metaphor on the reading comprehension of sixth grade students; (3) effects of vocabulary difficulty and text characteristics on children's reading comprehension; (4) a self-questioning strategy; (5) third and sixth grade students' comprehension of anaphoric relations in basal readers; (6) oral reading intonation and reading comprehension; (7) the effects of interspersed questions, advance organizers, and post organizers on good and poor comprehenders; (8) age related effects of the interaction of prior knowledge and text structure on the recall of prose; (9) two techniques that elicit predictive responses on the comprehension of content area reading material; (10) a psycholinguistic study of how syntax affects comprehension; (11) the effectiveness of a selected set of study aids on the reading comprehension of fifth and sixth grade students; and (12) the effect of inference-making aids on poor readers' comprehension. (RL)

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Reading, Comprehension, and Memory Processes:

Abstracts of Doctoral Dissertations Published in Dissertation Abstracts International, January through June 1981 (Vol. 41 Nos. 7 through 12)

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AN ASSESSMENT OF PARENT-CHILD RELATIONS DURING THE PRE-SCHOOL YEARS AND THEIR IMPACT ON THE CHILD'S READING COMPREHENSION AT THE END OF THIRD GRADE

Order No. 8102745

ADAMS, MARGARET EILEEN, PH.D. *University of South Carolina*, 1980. 66pp.

The purpose of the study was to investigate whether experiences and activities provided in the home prior to a child's entrance into formal school and the child's involvement in a pre-school program had a measurable influence on the development of reading skills. More specifically, it was to determine the effect of home support behaviors on the development of the ability to understand or comprehend what is read. The study further attempted to investigate the relationship between the parents level of education and the child's comprehension score; and the parents income level and the child's comprehension score.

The following hypotheses were tested: (1) There will be a positive relationship between scores derived from the Reading Comprehension Test, a subtest of the *Comprehensive Tests of Basic Skills* and the level of home support provided by the parent(s) as reported on the Home Support Inventory. (2) There will be a positive relationship between scores derived from the Reading Comprehension Test of the *Comprehensive Tests of Basic Skills* and the level of education of the parent(s) as reported on the Parent Information Questionnaire. (3) There will be a positive relationship between scores derived from the Reading Comprehension Test of the *Comprehensive Tests of Basic Skills* and the level of income of the parents as reported on the Parent Information Questionnaire. (4) There will be a positive relationship between the child's involvement in a pre-school program and the scores derived from the Reading Comprehension Test of the *Comprehensive Tests of Basic Skills*.

The sample population consisted of 68 families. The parents in the study were administered two questionnaires, (1) the Home Support Inventory and (2) the Parent Information Questionnaire, designed to determine the quantity of home support the parents provided the child in the home prior to admission to first grade; the educational level; and economic level of the parents. The Reading Comprehension Test, the subtest from the *Comprehensive Tests of Basic Skills, Level I, Form S*, was used to assess the child's reading comprehension. The Pearson Product Moment Correlation statistical procedure was used to test the hypotheses. Analysis was performed through utilization of the Statistical Package for the Social Sciences. The .05 level of statistical significance was observed throughout for determining whether the hypotheses were supported. The analysis of the data revealed a positive relationship, at a statistically significant level, between the level of home support provided by the parents and the scores derived from the Reading Comprehension Test; and between the child's involvement in a pre-school program and the scores derived from the Reading Comprehension Test of the *Comprehensive Tests of Basic Skills*. The data revealed a negative relationship, at a level to be considered statistically significant, between the parents educational level and the parents income level, and the scores on the Reading Comprehension Test of the *Comprehensive Tests of Basic Skills*.

EFFECTS OF GRAPHIC ORGANIZERS, TEXTUAL ORGANIZATION, AND READING COMPREHENSION LEVEL ON RECALL OF EXPOSITORY PROSE

Order No. 8104509

ALVERMANN, DONNA ELAINE, PH.D. *Syracuse University*, 1980. 177pp.

This study had three purposes. One, to determine whether the graphic organizer (a schematic representation of text structure using key vocabulary terms) could be used to compensate for the effects of a passage organized with an attributive top-level structure. Two, to explore the effectiveness of providing students who differ in their reading ability with different types of instructional strategies and textual organizations. Three, to learn how instructional strategy, textual organization, and reading comprehension level affect posttreatment attitudes.

Underlying assumptions included the following: (a) the importance of textual organization for comprehension, (b) the notion that schema theory can explain how people comprehend, and (c) the idea that the effectiveness of any instructional strategy is modified by the learner's prior reading achievement.

Tenth graders (N = 128) read two versions of an expository passage which contained identical information but differed in their top-level structures (adversative versus attributive). Students in each text condition were either exposed to or denied instruction with a graphic organizer that had been constructed to reflect the top-level structure of the adversative passage. Thus, there were four treatment groups (N = 32). Subjects had been randomly selected and then randomly assigned to those groups according to their Stanford Diagnostic Reading Test scores. The dependent variable (number of idea units recalled) was measured three times: immediately after students read the passage (immediate free recall), one week later (delayed free recall), and one week later but with cues provided (delayed cued recall). Meyer's (1975) system of prose analysis was used to score students' recall protocols.

Multiple regression analyses revealed three important findings. First, as hypothesized, immediate free recall performance for students exposed to a graphic organizer was positively affected only under the attributive text condition. The same interaction was observed one week later on both the delayed free and delayed cued measures. These results suggest that organizers may facilitate comprehension and retention when readers are required to reorganize information found in text but may have no effect when reorganization is unnecessary. Second, both skilled and unskilled readers appeared to benefit from the use of graphic organizers. Prior achievement in reading did not interact with type of instructional strategy as hypothesized. Third, text organized with an attributive top-level structure did not produce significantly better recall performance among poorer readers; nor did adversative text structure produce significantly better recall among the more able readers. Finally, multiple regression analyses of posttreatment attitude data did not yield any educationally significant results.

Future organizer studies should test the applicability of assimilation encoding theory when time spent on reading is controlled and when the length of the treatment period is extended over at least 10 class periods. Finally, personal interviews and/or specially designed questionnaires might prove more advantageous than standardized instruments in gathering posttreatment attitude data that can be used as supplemental information in interpreting cognitive learning outcomes.

ADJUNCT AIDS AND MOTIVATION APPLIED TO THE MEMORY OF SELF-HELP READING MATERIAL

Order No. 8109977

ANDERSON, TERENCE NEAL, PH.D. *The University of Nebraska - Lincoln*, 1980. 184pp. Adviser: John A. Glover

Adjunct aids have been an area of research relevant to increasing the retention of written materials. Of the four types of aids, only one, response modes, seems to have no theoretical underpinning. Much of the adjunct aid literature to date has involved questions, objectives, and advanced organizers and has relied upon a theoretical base to explain "why" they might have the effects they do rather than using that theoretical orientation to generate new techniques. The present research focused attention on the usefulness of applying the evolving theoretical construct of "depth of processing" as proposed by Craik and Lockhart (1972) in the area of memory research to generate new response modes for increasing memory of self-help reading material.

Additionally, the study of adjunct aids generally, and response modes specifically, has seldom included consideration of subject characteristics, despite the interactional emphasis of contextualism which generated the interest in adjunct aids initially. Attention was drawn here to the effect of the subject variable, motivational level of readers, as it influenced the impact of response modes on memory of self-help reading material.

Three response modes were generated and compared to a control group: (1) application of the reading material to oneself; (2) application to others; and (3) paraphrasing the reading material. Retention was assessed by measures of short-term and long-term (two weeks) cued recall, problem-solving, and free recall.

Results did not support the hypotheses of: (1) motivated subjects who applied the material to themselves scoring highest on measures of retention, followed by those who applied the material to others, those who paraphrased the material, and the controls; (2) unmotivated subjects not being significantly effected by the treatments; and (3) no significant differences being obtained when motivation of subjects was not considered.

It was concluded from an analysis of the means that: (1) control subjects scored unexpectedly high, possibly from the interference of the response modes with usual strategies used by readers, or because of the prerequisite learning necessary to use the aids themselves before they could be effectively applied to increase retention; (2) the application to self treatment was increased by the subject variable of motivation and should be further explored; and (3) that more focus should be directed towards the characteristics of different measures of comprehension since they result in varying outcomes.

THE EFFECT OF METAPHOR ON SIXTH GRADERS' READING COMPREHENSION

Order No. 8110511

BOVEY, NANCY BETH, PH.D. *Texas Woman's University*, 1980. 235pp.

The general purpose of this study was to investigate sixth-grade students' reading comprehension of metaphor in connected discourse and, in particular, as this reading comprehension related to schema for the vehicle of the metaphors and to the inferencing done by students in their free retellings. Specifically, the study sought to answer the following questions. (1) What are the differences between sixth-grade students with high and low schema for the vehicle of a metaphor in propositional recall? (2) Is there a difference between students with high and low schema for the vehicle of a metaphor in the amount of inferencing in the free retelling? (3) What are the differences between sixth-grade students with high and low incidences in inferencing in their free retellings in propositional recall? (4) Is there a difference between students with high and low schema for the vehicle of a metaphor in the resolution of a metaphor as measured by a direct probe? (5) Is there a difference between students with high and low incidences of inferencing in their free retellings in the resolution of a metaphor as measured by a direct probe? (6) Do students more often recall, in free retelling, metaphors which are in important propositions (macro-structure) rather than metaphors in less important propositions (micro-structure)?

The experimental passage appears in *Keystone* published by Houghton Mifflin Company. The first part of the article (422 words) was used intact for the study. Sixteen figures of speech and their vehicles were identified as targeted structures.

Subjects used in this study were sixth-grade students. They were tested individually after being given a preassessment evaluation to determine whether or not the necessary decoding skills were present. Students who passed the pre-assessment evaluation read the passage silently, worked simple math problems for one minute to erase short term memory, and retold the passage. The second comprehension measure, which specifically probed the 16 targeted structures, followed the free retelling. The final measurement evaluated schemata through the use of a word association technique.

Each subject's free retelling was scored by two investigators against a template representing the propositional structure of the passage based upon work by Frederiksen. The second comprehension measure and the schema responses were also scored by two judges with the schema responses scored according to Langer.

Subjects were assigned post hoc to either a high or low schema group, depending upon their scores on the schemata measure, and to either a high or low inference group depending upon the number of inferences made in their free retelling. The research questions were examined in terms of the *Mann-Whitney U Test*.

When subjects were grouped according to schema, there was not a significant difference between groups in the number of total propositions ($z = .69$), metaphoric propositions ($z = .57$), or macro-propositions ($z = .47$) recalled. Subjects in the High Schema Group made more inferences than students in the Low Schema Group ($z = 2.60$). When subjects were grouped according to number of inferences generated in the free retelling, subjects in the High Inference Group recalled more total propositions ($z = 3.20$) and more metaphoric propositions ($z = 2.30$). There was not a significant difference between the High and Low Inference Groups in the number of macro-propositions recalled ($z = 1.13$). Subjects in the High Schema Group resolved more of the direct problems to the metaphors than subjects in the Low Schema Group ($z = 5.3$). Subjects in the High Inference Group also resolved more of the direct probes to the metaphors than subjects in the Low Inference Group ($z = 4.35$). Subjects recalled significantly more metaphor/macro-propositions than metaphor/micro-propositions ($z = 2.39$).

A STUDY OF THE EFFECT OF THE TEST ENVIRONMENT ON THE READING COMPREHENSION, COMPREHENDING, AND PROCESSING OF TEXT BY JUNIOR HIGH SCHOOL READERS

Order No. 8103408

CASHEN, CAROL JOAN, ED.D. *Indiana University*, 1980. 153pp. Chairman: Jerome C. Harste

Thirty-two junior high school students were randomly assigned to one of three treatment groups with an equal number of good, average and poor readers in each group. They were repeatedly measured for comprehension, comprehending, and processing of text as they orally read and retold three stories in a test/no-test environment. The purpose of the study was to investigate the testing of reading as an interactive process between the reader, the text, and the situational/cultural environment.

The null hypothesis for the study was that there would be no difference in reading achievement scores for students reading in a test or a no-test environment. The no-test environment was the replication of a classroom reading assignment with all subjects orally reading a story to the researcher and then orally retelling the story. The test environment was simulated by telling the subjects that they would be tested over what they had read immediately following the oral reading. In the test situation, in addition to retelling the story, the subjects were presented with a ten-question multiple choice test. To prevent the confounding of the retelling with the test questions, subjects were randomly assigned to either read the story, retell the story, and then answer the test questions or to read the story, answer the test questions, and then retell the story.

The following measures were used in the study: (1) a multiple choice test was used to measure comprehension, which was defined as the end product of reading; (2) comprehending, defined as in-process reconstruction during reading, was measured using the meaning change question from *The Reading Miscue Inventory*; and (3) processing, defined as the process of recalling meaning and organization from the text through the oral retelling of the text following the oral reading, was measured through propositional analysis.

The data was analyzed as a multifactor experiment having repeated measures on the same elements. The variables measured were comprehension, comprehending, and processing in the test/no-test situation. Although no statistical significance was found in the analysis of the data, the trend showed that subjects performed better on the comprehension measure (the multiple choice test) in the test situation than in the no-test situation. This was anticipated because of the subjects' familiarity with multiple choice tests through the schooling process. However, doing well on a multiple choice test does not necessarily indicate that a subject is comprehending or processing the text read. Both information in the question stem and the matching of surface level elements of the question to the surface level orthographic or phonological features of the original text can result in the correct answer rather than comprehension of the text. Also, simple recognition questions, the content of many multiple choice tests, are much easier to answer than questions demanding recall.

While the data supported the null hypothesis, several major implications demanding further research can be drawn from the study. These are: (1) the importance of the individual; (2) the importance of social context; and (3) the variability of expected results.

While the importance of the individual has been considered in the teaching of reading, it has not been considered in the testing process. This study showed some individuals adversely affected by the testing environment with those subjects not performing as well under the test conditions as under the no-test or real classroom reading situations. It remains problematic as to how to test these individuals.

The importance of the social context has been avoided in the testing of reading; however, this study suggested that the context of the situation and the context of the culture are ingrained into students through years of schooling.

Variability must be expected in the comprehension and comprehending of text due to the variability of the background schema that students bring to reading. Therefore, classroom teachers must not expect the same results from all students but must expect variability based on the generation of new ideas from reading.

A COMPARATIVE STUDY OF THE EFFECTIVENESS OF TRAINED AND UNTRAINED PARENT TUTORS ON READING COMPREHENSION PERFORMANCE OF INTERMEDIATE GRADE STUDENTS

Order No. 8026998

COLVIN, MARILYN ANN BERRY, ED.D. *University of Houston*, 1980. 162pp. Chairman: Dr. Douglas A. Tomas

The purpose of the study was to examine the effects of parent training on reading comprehension performance of intermediate grade students. An experimental pretest, posttest, control group design was used to compare differences in literal, inferential, and total reading comprehension performance among three groups of children: Those receiving trained-parent tutoring, those receiving untrained-parent tutoring, and those receiving no parent tutoring. More specifically, the study examined the influence of parent training in five comprehensive categories: (a) predicting outcomes and extending ideas, (b) locating information, (c) organizing, (d) remembering, and (e) evaluating (Guszak, 1978) on fourth, fifth, and sixth grade students' literal, inferential, and total reading comprehension performance. Research hypotheses were tested controlling for sex, grade level, reading teacher, and score ranking within experimental groups.

The subjects of the study were 83 volunteer parents and their children randomly assigned to three groups. Eighty-three children were pretested and posttested using alternate forms of the *Stanford Diagnostic Reading Test* (Karlsen, Madden, & Gardner, 1976).

A four hour training program was developed using Guszak's (1978) comprehension structure PLORE and was used to train 25 parents to stimulate improved literal, inferential, and total reading comprehension in their children. After the training program, parents were asked to apply the training by tutoring their children at home 15 minutes a day, three days a week for a period of six weeks. Tutoring consisted of having children read orally from self-selected materials and then answering questions from PLORE comprehension categories. Another group of 26 parents received no training during the experimental period but were instructed to tutor their children at home by having them answer questions based on self-selected oral reading materials. Both groups of parents kept records of each tutoring session and returned them to the investigator weekly. Twenty-six parents assigned to the control group were given no training or instructions during the experimental period. After the period of tutoring for trained and untrained-parent groups, all children were administered a posttest of the dependent variables in order to determine the effectiveness of trained-parent tutoring. Following posttest administration, parents in untrained-parent group and control group received training identical to that provided the trained parents at the beginning of the study.

Data were analyzed using statistical calculations of means, variances, and standard deviations to provide descriptive data, ANOVA to detect significant differences among groups, and *t* tests of significance for comparison of group means.

Conclusions. (1) Intermediate grade students whose parents received training in five comprehension categories and who were tutored at home by their parents scored significantly higher than the control group on a test of literal, inferential, and total reading comprehension ability. (2) No significant differences in literal and inferential reading comprehension scores were found due to sex of subject or reading teacher. (3) Significant differences favoring the trained-parent group occurred in literal and inferential comprehension scores of sixth grade students. Differences favoring the trained-parent group occurred in literal and inferential comprehension scores of fourth and fifth grade students but were not significant. (4) Children ranked in the middle and low one-third of the trained-parent group had significantly higher literal and inferential comprehension scores than children ranked in the middle and low one-third of the control group. (5) No significant differences among top ranked students were found.

THE EFFECTS OF USING A GRAPHIC ADVANCE ORGANIZER BEFORE, DURING, AND AFTER READING ON THE COMPREHENSION OF WRITTEN TEXT: A STUDY CONDUCTED WITH SIXTH-GRADE STUDENTS

Order No. 8028176

DANA, CAROL MARIE, PH.D. *The University of Wisconsin - Madison*, 1980. 130pp. Supervisor: Professor Wayne Otto

The purpose of this study was to test the effects of using a graphic advance organizer before, during, and after reading on the comprehension of written text. A graphic advance organizer has been defined as a visual/verbal presentation of key vocabulary in a new learning task, in relation to broader, more inclusive terms (presumably) understood by students. To determine the usefulness of the graphic advance organizer three questions were posed: (1) Does the use of a graphic advance organizer with text facilitate comprehension? (2) Does the use of a graphic advance organizer with text facilitate delayed comprehension? (3) Do students classified as below-level, at-level, and above-level readers benefit similarly from using a graphic advance organizer with text?

To answer these questions an experiment was conducted with 197 sixth-grade students in a middle school in western Wisconsin. The students were assigned to a graphic advance organizer group or a reading-only control group. Using the results from the reading subtest of the Iowa Standardized Achievement Test obtained from the school records, students were stratified into below-level, at-level, and above-level readers. Four teachers participated in the study. Each teacher worked with two groups of students, a class of treatment-group students and a class of control-group students. The treatment-group students were given the graphic advance organizer to use before, during, and after reading. The control-group students simply read the text. The text consisted of units on different ecosystems--desert, tropic island, and city. Students completed the materials at their own pace. After a student completed reading a unit, he was given a multiple-choice subtest covering the content of that unit. Upon completion of all the units, the four subtests were scored to yield the composite-comprehension test score. A comprehensive-comprehension test was given after all the units were completed. This multiple-choice test covered the content in all the units. One week after completing the comprehensive-comprehension test, each student was given ten minutes to review either the organizer if he was a treatment-group student or the text if he was a control-group student. The student was then given a short-answer delayed comprehension test. The scores from the composite, comprehensive, and delayed comprehension tests were analyzed in order to answer the three questions.

To analyze the data three analyses of variance were performed, one with the scores from each comprehension test. The scores that were used in the analyses had been randomly sampled from the tests of the treatment and control groups. Findings from the analyses of variance were used to answer the three questions. In answering the first question on whether a graphic advance organizer facilitates comprehension, the findings indicated that although the graphic advance organizer did not facilitate comprehension of single-theme text, it did facilitate comprehension of multi-thematic text. In answering the second question on whether the use of a graphic advance organizer with text facilitates delayed comprehension, the findings showed that the graphic advance organizer strengthened retention of content. In answering the third question on whether below-level, at-level, and above-level readers benefit similarly from the use of a graphic advance organizer, the results indicated that all three levels benefited similarly.

A TEST OF AN AFFECTIVE MODEL OF READING: THE STUDY OF THE USE OF NEWSPAPERS IN EDUCATION

Order No. 8101995

DEWELL, BARBARA MAE MILLER, ED.D. *The University of Tulsa*, 1980. 82pp. Director: Professor Dale Johnson

In 1976, Grover C. Mathewson proposed The Acceptance Model, a model of attitude influence in reading comprehension. According to this model, attitude toward reading is influenced by motivational processes. The problem investigated in this study was to determine if it is possible to increase positive attitudes toward reading by the use of highly motivational reading material--namely, newspapers.

Although some research had been done to determine the effects of newspaper use, the findings were frequently based on short-term studies, with small samples, and faulty designs. Research on the effects of newspaper use was needed to justify the use of newspapers as supplements

to the classroom texts. As a result, this study represents a formal treatment of the research question: Do students who use the newspaper in their classrooms show a more positive attitude toward reading than students who have not used a newspaper. Because a review of literature indicated that attitude toward reading is influenced by age, sex, and socio-economic status, for testing purposes the research question was rephrased to focus on sub-sample groups by elementary and secondary students, sex, and socio-economic background.

With the assistance of the district's research department, ten schools (six elementary, two junior highs, and two senior highs) in a metropolitan school district were selected to represent the city's range of geographic areas, socio-economic backgrounds, and racial compositions of student bodies. Teachers in these schools were invited to participate in using the newspaper on the conditions that they attend a workshop to receive information on using newspapers and cooperate in the collection of research data. The students of these teachers formed the experimental group. Matching comparison schools and teachers were selected in a like manner. After the experimental group had used the newspaper for one school semester, the Estes Attitude Scale for Reading was administered to both groups.

In the elementary schools, 449 students used the newspaper; in the secondary schools, 1,044 students used the newspaper and comprised the experimental groups. Students in the comparison schools were matched to the experimental students on the basis of grade level and sex. Grade range was from 2 to 12; the sample consisted of 3,021 students, 1,523 boys and 1,498 girls.

Multiple classification analysis of variance procedures were used with the attitude scores derived from the Estes Attitude Scale for Reading. The main effects of the analysis were group, sex, and socio-economic status.

The analysis procedures resulted in a significant ($p < .05$) mean difference between the experimental and comparison groups of elementary and secondary students. In addition, significant group difference was found in the sub-samples of lower-middle class elementary students, secondary boys and elementary girls. However, significant group difference was not achieved in the sub-samples of upper-middle class elementary students, elementary boys, and secondary girls. Furthermore, interaction effects indicated that use of the newspaper is most effective in lower-middle class communities for improving both elementary and secondary girls' attitudes toward reading.

The results of this study indicated that the newspaper is a motivational instructional tool which can produce an increased positive attitude toward reading when used with students as a supplement to classroom texts.

EFFECTS OF VOCABULARY DIFFICULTY AND TEXT CHARACTERISTICS ON CHILDREN'S READING COMPREHENSION

Order No. 8108585

FREEBODY, PETER RAYMOND, PH.D. *University of Illinois at Urbana-Champaign*, 1980. 319pp.

Four experiments assessed the role of vocabulary difficulty and various text characteristics on sixth-grade students' comprehension of expository texts. The measures of comprehension were free recall, summarization, and sentence recognition. In the first experiment, passages were constructed in three vocabulary forms--an easy form, with only high-frequency words, a medium-difficulty form, with one substance word in six changed to a low-frequency synonym, and a difficult form, in which one substance word in three was changed. Students read one passage of about 450 words in each of the three conditions. A significant effect for vocabulary difficulty was found on the sentence recognition task, and a nonsignificant trend was found on the recall measure. Difficult vocabulary forms were consistently associated with less recall than were easy forms.

The effects of vocabulary difficulty and text cohesion were tested in Experiment 2. Three levels of cohesion were developed--a high-cohesion form, in which many connective words and phrases and explicit referential ties were used, a low-cohesion form, in which referential ties were less used, a low-cohesion form, in which referential ties were less explicit and many connective words and phrases were removed, and an "inconsiderable" form, in which the low-cohesion form was supplemented by eight extraneous pieces of information. Each of these forms appeared in two vocabulary levels--one with only high-frequency words, and one with one substance word in four a low-frequency words, and one with one substance word in four a low-frequency word. Students were assigned to a vocabulary condition. They read one passage in each of the three cohesion forms. Vocabulary difficulty affected recall and summarization. Cohesion was related to the measures only in interaction with position; high cohesion encountered in the first position was associated with enhanced recall, while inconsiderateness in the third position led to lower recall.

Effects of difficult vocabulary in propositions at high versus low levels of rated importance were examined in Experiment 3. Students read three passages which varied in vocabulary difficulty. The presence of difficult vocabulary alone led to lower recall scores, and the presence of difficult vocabulary in important propositions led to significantly fewer adult-like summaries. Interactions with position were again found.

In Experiment 4 the effects of topic familiarity and vocabulary difficulty were tested. Contrasting two familiar and two unfamiliar topics, parallel forms of passages were constructed in which only a small proportion of the substance words differed. These forms were in addition each written in an easy and a difficult vocabulary version. Students were assigned to a vocabulary condition, and they read a familiar and an unfamiliar passage. Only the sentence recognition task was significantly affected by vocabulary difficulty, although there was a trend toward significance for the free recall measure. Topic familiarity affected free recall and sentence recognition and interacted with vocabulary difficulty and student ability on summarization scores.

Two meta-analyses were conducted to draw together the four experiments. First, the relationships among a proposition's serial position, its rated importance, and its appearance in free recall were examined. Over all passages, importance and serial position contributed independently to the prediction of probability of recall, as did the quadratic of position. That is, importance, primacy, and recency effects were evident. A second analysis examined effect-size for vocabulary difficulty. Over the four experiments, substantial effect sizes were found, especially for the free recall measure. Thus, clear detrimental effects were found for vocabulary difficulty on these measures of comprehension.

The results are discussed in terms of the decisions readers make about committing processing effort when they encounter unfamiliar words as opposed to less salient text characteristics.

THE EFFECTS OF THREE QUESTION PROPERTIES ON PROSE MEMORY AND FORWARD TEXT PROCESSING

Order No. 8103932

GOLDBERG, ELLEN S., PH.D. *City University of New York*, 1980. 177pp. Adviser: Professor Barry J. Zimmerman

The purpose of this study was to explore how adjunct questions function to modify reading outcomes, and to interpret question effects in the context of attentional and processing models of reading behavior. The study examined effects of three question properties: (1) *Specificity*-multiple Specific prequestions asked for verbatim recall of text facts; (2) *Organizing property*-Concept Organizer prequestions provided superordinate topic information (concepts) and asked for related subordinate content (facts); (3) *Constructive property*-Concept Construction prequestions asked for derivation of superordinate concepts implicit but not stated in text. Questions were inserted before related paragraphs in the first half of the text sequence to measure the effects of each question property on immediate and delayed learning of text. The second half of the text sequence was presented without questions to examine the forward influence of each property on retention and processing of unquestioned text. It was hypothesized that all prequestions would facilitate learning relative to a reading-only control. Hypotheses were confirmed for multiple Specific questions, but higher-level questions did not significantly affect the level of text learning. Multiple Specific questions resulted in greater immediate learning than that produced by higher-level questions. This result is consistent with previous research, and demonstrates that the direct effect of specific questions may produce greater factual learning than the effect of general questions when amount of question-relevant text is controlled. Delayed learning showed no significant differences among question groups. Forward effects were examined by measuring immediate and delayed recall of facts from unquestioned paragraphs. Comparisons with a control failed to demonstrate positive transfer for any prequestion. The finding that all prequestions resulted in less factual recall than a control on immediate transfer resembles the depression of incidental learning reported frequently in the literature. The unanticipated outcome that all subjects recalled more facts from unquestioned paragraphs was clarified by results of analyses of recall from

each paragraph. These analyses confirmed that recency and content-specific effects mediated effects of question treatment. Additional analyses of delayed data demonstrated that only Concept Organizer questions promoted representation of conceptual content in memory. These questions produced more concepts than a control on a delayed completion test which measured availability of concepts implicit in text. Subjects given Concept Organizer questions were more likely to recall conceptual content than factual content from questioned paragraphs, they freely recalled more concepts than any other group, and they outperformed a control in total recall from questioned paragraphs. An attentional model of question effects accounts fully for observed effects of specificity on factual text learning and for observed effects of higher-level questions. Concept Organizer questions influenced encoding strategies and subsequer : recall strategies, but Concept Construction questions were not efficient in clarifying reading objectives so that they failed to promote use of a question-relevant strategy for encoding text content. Questions in this study did not demonstrate effects of organizational variables, and inconsistencies in question-level research do not warrant generalizable conclusions about the effect of questioning on level of text processing.

A SELF-QUESTIONING STRATEGY: ITS EFFECT UPON THE READING COMPREHENSION LEVEL OF COLLEGE STUDENTS

Order No. 8106546

HATCH, NELDON L., PH.D. *Brigham Young University*, 1980. 98pp. Chairman: Rex A. Wadham

This study evaluated the effectiveness of a self-questioning strategy for increasing the reading comprehension of college students. Fifty-seven college students participated in an experimental group receiving training and sixty-three in a control group. Pre- and posttests of reading comprehension and measures of mastery and application were administered. Analysis of variance was used to test the hypotheses. The null hypotheses relating to (1) treatment, (2) interaction of treatment and verbal ability, (3) mastery, and (4) application were not rejected at the .05 level of significance. The null hypothesis relating to verbal ability was rejected.

Based on the results of the study it was concluded that: (1) the self-questioning strategy was not effective in increasing the reading comprehension level of college students, (2) no significant interaction exists between self-questioning and verbal ability level, and (3) control and experimental low verbal ability students show a significant increase in comprehension between pre- and posttests when compared to average or high verbal ability students.

THE EFFECTS OF VALUE ANALYSIS PROCEDURES UPON STUDENTS' ACHIEVEMENT IN READING COMPREHENSION

Order No. 8101968

IRVIN, JUDITH LYNN, PH.D. *The Florida State University*, 1980. 87pp. Major Professor: John P. Lunstrum

The purpose of this study was to investigate the effects of value analysis instructional procedures upon students' achievement in reading comprehension. Students were randomly assigned to one of two treatments: reading instruction using a basal approach or reading instruction using a value analysis approach. A model of value analysis originally developed by Fraenel was adapted to design materials in the value analysis group. Literal reading comprehension and higher reading comprehension were tested separately. In addition, the factor of retention o er time and the interaction between treatment and time was tested. Sample treatment sessions were taped and rated to insure consistency of approach of the researchers. The two treatment groups were compared through a simple t-test procedures to substantiate the claim that the two treatment groups were equivalen: with regard to ability. Students were administered the *McGuire-Sumpus Reading Comprehension Test* (form X) immediately after the treatment ended and a parallel form of the same test (form X) of the same test two weeks after the treatment ended.

A total of 108 students participated in this study. All students attended the Developmental Research School in Tallahassee, Florida, The students population at this school is carefully chosen through computer analysis to reflect the socio-economic and ethnic composition of the State of Florida

An analysis of variance design with repeated measures on the dependent variable was chosen to ascertain the difference between the means for the value analysis treatment group and the basal treatment group.

With respect to the literal level of reading comprehension, no significant difference between the means for the value treatment group and the basal treatment group was found. Also, no significant differences were observed between the first and second post-tests and the interaction between treatment and time. However, trends in the obtained data show that the sample mean for the value analysis treatment group appeared to be higher on the delayed post-test than the sample mean of the basal treatment group. One possible explanation for this finding is that discussion of the value issues inherent in the stories helped students to recall and to organize information around a central theme.

While no significant difference for higher level reading comprehension was found, there was a tendency for participants in the value analysis treatment group to perform better on both tests than the basal treatment group. These results suggest that both the processes of reading comprehension and valuing may encompass what may be called the critical process; analyzing, applying and integrating information.

The effect of the treatment over time for higher level reading comprehension, produced no significant difference between the means of the first and second post-test although there was a trend for the scores on the second post-test to be lower. This tendency may be due merely to the passage to time. The interaction between time and treatment for higher level reading comprehension was found to be non-significant.

The findings of this study may tentatively suggest that if teachers focused on the many value issues inherent in basal reading material, reading comprehension at higher levels may be improved. It was further recommended that publishers and teacher educators should consider providing the necessary tools of value analysis to classroom teachers.

THIRD AND SIXTH GRADE STUDENTS' COMPREHENSION OF ANAPHORIC RELATIONS IN BASAL READERS

Order No. 8101449

JOHNSON, BARBARA TAUBENHEIM, ED.D. *Northern Illinois University*, 1980. 227pp.

The intent of this investigation was to determine the proficiency of elementary students in comprehending anaphora in well-formed stories from basal readers selected from the student's instructional levels. Research questions were posed about the effects that story structure (sequential episodes and embedded episodes), grade level (three and six), and sex have on elementary students' comprehension of anaphora.

In two separate testing sessions within each classroom, the students' classroom teachers administered two forms of the Anaphora Production Test of APT (Taubenheim, 1979) to 261 third grade students and 175 sixth grade students. The APT was used to identify the students' proficiency in comprehending anaphora in well-formed stories from basal readers at third and sixth grade levels. The test is composed of four forms: two at each grade level. Forms One and Two are designed to measure third grade students' comprehension of anaphora; Forms Three and Four are designed to measure sixth grade students' comprehension of anaphora. One form at each grade level has one complete well-formed basal story that is composed of sequential episodes; the other form at each grade level has one well-formed basal story that contains at least one embedded episode. Each test form contains fifty wh-form questions (simple *who, what,* or *where* questions) about anaphora to evaluate students' comprehension of anaphora in basal stories. Evaluation is based on the students' identification of an appropriate antecedent to the anaphoric form. A raw score for each form of the APT is obtained by adding the correct responses together.

Descriptive statistics were used to identify elementary students' proficiency in comprehending anaphoric relations. A three-way analysis of variance was used to determine the effects of story structure, grade level, and sex on students' comprehension of anaphora. A two-way analysis of variance was used to determine whether grade level and sex affected the students' comprehension of anaphora, when the two raw scores from the APT were summed at each grade level. Significance was reported at the .05 level of a two-tailed test.

The findings are as follows: (1) Third and sixth grade students' mean percent of total correct responses ranged from 72% to 79%. The mean percent of correct responses for third and sixth grade students' comprehension of anaphora on the sequential and embedded story structures ranged from 68% to 81%. (2) Third grade students achieved significantly higher scores in stories with embedded episodes than in stories

with sequential episodes. Sixth grade students did not achieve significantly higher scores on either story structure. (3) Third grade students achieved significantly higher levels of comprehension in anaphora in the embedded story structure than did the sixth grade students. Sixth grade students achieved significantly higher levels of comprehension in anaphora in the sequential story structure than did the third grade students. (4) Females were more proficient in comprehending anaphora than were males, regardless of grade and regardless of story structure.

The following conclusions were drawn from the statistical analyses. Third and sixth grade students have not achieved total proficiency in comprehending anaphoric relations in well-formed stories from basal readers selected from their instructional levels. Longer discourse provided by well-formed stories in basal readers did not seem to provide elementary students with total comprehension of anaphora. Story structure influenced third grade students' comprehension of anaphora. Grade level did affect students' comprehension of anaphora in the two types of story structures but in opposing directions for the two grades.

A COMPARATIVE STUDY OF SELECTED KINDERGARTEN STUDENTS WHO READ WITH SELECTED KINDERGARTEN STUDENTS WHO DO NOT READ

Order No. 8112300

JOHNSON, MARY STEPPE, ED.D. *Duke University*, 1980. 120pp.
Supervisor: Dr. Anne Adams

The purpose of this study was to develop a profile of the kindergarten student who was reading and a profile of the kindergarten student who was not reading. The profiles were developed based on comparisons of family and home background information, scores on an achievement test, scores on a reading readiness test, scores on a reading test, scores on an inventory of developmental tasks, the writing of the alphabet and teacher ratings of the selected students participating in the study.

The study population was limited to 15 kindergarten students who were reading and 15 kindergarten students who were not reading selected from four kindergarten classes in one elementary school. Kindergarten students not enrolled in the school since September 1978, kindergarten repeaters, kindergarten students classified as mentally retarded and/or learning disabled and kindergarten students from broken homes were eliminated from the study.

The literature relating to reading and pre-first grade students was reviewed to locate background information and to become knowledgeable about related studies. Special attention was given to the areas of reading readiness, selected characteristics of early readers and non-early readers, home environment/early experiences of early readers and non-early readers, and test scores/teacher ratings of early readers and non-early readers.

A reading survey was designed by the writer to identify kindergarten students who were reading. Comparisons of the early readers and the non-early readers were based on information obtained from the students, their parents and their teachers.

A questionnaire was designed by the writer and mailed to superintendents of the 144 public school systems in North Carolina to gain information concerning the use of existing teaching strategies designed specifically for kindergarten students who are reading. The writer requested that the superintendent forward the questionnaire to the person in central administration in charge of kindergarten programs. Responses from 88 public school systems were received.

Data obtained during the study were analyzed and interpretations and recommendations made. Significant differences, arbitrarily set at a 20% or more difference, between the early reader and the non-early reader were reported on the Durkin Teacher Rating Scale and the Family Questionnaire. A comparison of the scores of the early reader and the non-early reader on the Metropolitan Achievement Test, the Metropolitan Reading Readiness Test, the Woodcock Reading Mastery Test--Form A, and the Santa Clara Inventory of Developmental Tasks was made. Percentages were rounded off to the nearest one-tenth percent. A comparison was also made of the writing of the alphabet by the early reader and the non-early reader participating in this study.

A profile of the early reader and a profile of the non-early reader indicated that the home environment is of great importance to the preschool child and his early reading success. It was further concluded that reading readiness is perceived as a broad concept involving all areas of a child's life, not definable or observable by only one or two parts.

ORAL READING INTONATION AND READING COMPREHENSION

Order No. 8102275

KARLIN, ANDREA RUTH, PH.D. *The University of New Mexico*, 1980. 104pp.

The purpose of this study was to investigate the relationship between intonation in oral reading and reading comprehension as measured by the cloze procedure. Subjects were 54 Black West Indian college students at the College of the Virgin Islands (1978-79), St. Thomas, U.S. Virgin Islands, who were United States Virgin Islanders. Each subject was recorded reading two passages. The recordings were analyzed to determine correct use of the three features of intonation, i.e., pitch, stress, and juncture, for United States Virgin Island Black West Indian speech. Bivariate correlations were computed to assess the relationship between each feature of intonation and reading comprehension. All possible combinations of pitch, stress, and juncture were subjected to multiple regression procedures to assess optimal weights for each variable. Results indicated no significant relationships. Implications of these findings suggest that additional research is needed to determine whether the dialectical difference or age of the sample may account for the non-significant results. Until these questions have been answered, measures other than the use of proper intonation must be used to assess reading comprehension. Suggested recommendations for future research include the use of content area material, the use of standard English speaking subjects of various ages, and the comparison of good and poor readers' use of intonation.

THE EFFECTS OF INTERSPERSED QUESTIONS, ADVANCE ORGANIZERS, AND POST ORGANIZERS ON GOOD AND POOR COMPREHENDERS

Order No. 8110521

KORZENOWSKI, KATHLEEN, PH.D. *Texas Woman's University*, 1980. 113pp.

The effects of an advance organizer, interspersed questions, post organizer, and control conditions on comprehension were compared. Seventy-six students enrolled in undergraduate courses served as subjects. They were classified as good and poor comprehenders based on the Nelson-Denny Reading Test. An 800-word passage was used to compare immediate and delayed free recall of ideas, facts, and ideas and facts combined. Results were analyzed using analysis of variance, covariance, and repeated measures designs. Good comprehenders scored significantly higher than poor comprehenders on all measures. Imediate recall was greater than delayed recall. On immediate recall of ideas, the post organizer treatment was significantly better overall than the three other treatment groups. On the analysis of variance for delayed recall of ideas the post organizer treatment was significantly better for good comprehenders, while no one treatment proved to be significantly better than the others for poor comprehenders. There were no significant treatment effects on the analysis of covariance for ideas delayed. It was concluded that the post organizer proved most helpful in the immediate recall of ideas.

SENTENCE-COMBINING: ITS ROLE IN COMPREHENSION AT LITERAL, REASONING, AND EVALUATIVE LEVELS AND AT THREE SYNTACTIC COMPLEXITIES

Order No. 8029276

LEDESMA, LYDIA GUEVARA, ED.D. *West Virginia University*, 1980. 229pp.

The purposes of the study were to determine whether sentence-combining contributes to reading comprehension at literal, reasoning, and evaluative levels and to accuracy in comprehending materials of varying syntactic complexities. It also examined the relationship between the writing and reading measures used in the study.

Subjects for the study were freshmen of West Virginia University enrolled in Developmental English I during the fall semester of 1979. They were randomly assigned to the research groups designated sentence-combining (SC) group and grammar lessons (GL) group.

The basic two-group experimental design was used with pretest and posttest measures on each group. The independent variable was treatment: sentence-combining vs. grammar lessons. The fourteen dependent variables were: (1) comprehension scores on the IOWA Silent Reading Test (literal,

reasoning, evaluative, and total); (2) comprehension scores on the Constructed Passages (6th, 10th, and average adult syntactic complexities, and at literal and reasoning levels and the total on the passages); and (3) syntactic complexity scores in free and controlled writing as measured by mean clause length and mean T-unit length.

Treatment consisted of sentence-combining for the SC group and grammar lessons for the GL group during workshop for Developmental English I.

Statistics used were analyses of variance, nonparametric sign tests, and Pearson's r.

Based on questions for the study, the results are as follows:

Results for Q1. The analyses of variance on the ISRT revealed a significant difference at the reasoning level in favor of the SC group and no significant difference between groups for the literal and evaluative levels. The sign test revealed a significantly greater number of higher scores for the SC group and no significant differences between groups for the literal and evaluative levels.

Results for Q2. The analyses of variance on the Constructed Passages revealed a significant difference at the literal level in favor of the GL group. No significant differences were found between groups at the 6th, 10th and average adult syntactic complexities, and at the reasoning level on the Constructed Passages. The sign tests revealed: (1) that the GL group had a significantly greater number of higher scores than the SC group at the literal level; (2) that the pre- to posttest measures, the SC group had a greater number of gain scores than the GL group.

Results for Q3. When pre- and posttests were considered, there was a specifiable relationship which showed that among the SC group, the more clauses and T-units the student wrote in controlled compositions, the higher the scores for reading comprehension on the ISRT.

Results for Q4. When pretests for writing and posttests for reading were considered, the SC group had more significant relationships between writing and reading than the GL group; in addition, more significant relationships were found between writing and reading on the Constructed Passages than reading on the ISRT, and more relationships were found between controlled writing rather than free writing and reading on the Constructed Passages.

Until further studies are made, the results can only indicate a possibility that sentence-combining may serve as an aid to reasoning comprehension. On the Constructed Passages, the results seem to justify a tentative conclusion that sentence-combining was aiding students in dealing with the syntactic complexity element of reading comprehension.

On the relationships between writing and reading, until further studies and analyses are carried out, the only tentative conclusions that can be made are that: (1) sentence-combining may have contributed to more relationships for the SC than the GL group; (2) reading and writing scores are more closely related when more reading is required to complete the writing task; and (3) the syntactic complexity element may be an important element in reading and writing.

A STUDY OF THE RELATIONSHIP BETWEEN VISUAL IMAGERY AND READING COMPREHENSION OF THIRD AND SIXTH GRADE CHILDREN

Order No. 8103312

LUTZ, BRUCE LEON, ED.D. *Oklahoma State University*, 1980. 90pp.

Scope of Study. The major focus of this study was derived from previous research which has suggested that visual imagery may be related to reading comprehension. A review of past research indicated that there has not been an effort to specifically study the relationship between visual imagery ability and different aspects of reading comprehension. Also, consideration of the differences between age groups in respect to the visual imagery-reading comprehension relationship has not been made in the previous research studies. The purpose of this investigation was to explore the relationship between visual imagery and specific aspects of reading comprehension in elementary aged children.

Two primary research questions were posed to guide the investigation: (1) Do significant relationships exist between visual imagery abilities and skills on different reading comprehension areas? (2) Is there a significant difference between the visual imagery abilities of third grade students and sixth grade students?

In order to study the relationships between visual imagery and reading comprehension, two instruments were used. Subjects were administered the *Vividness of Visual Imagery Questionnaire* (Marks, 1973a) to assess the subjects' self-reported visual imagery abilities. The *New Developmental Reading Tests* (Bond, Balow and Hoyt, 1968) was used to assess seven different areas of reading comprehension; reading for information, reading for relationships, reading for interpretation, reading for appreciation, literal comprehension, creative comprehension and general comprehension. Kendall's rank-order (tau) correlations were computed between the scores on the visual imagery test and the scores on the comprehension test for each grade group. A Mann-Whitney-U-Test was employed to analyze the difference in imagery abilities between the third grade and sixth grade students. Fifty-seven third grade and fifty-seven sixth grade students were used in the study. Subjects were randomly selected from four public schools in Ponca City, Oklahoma.

Findings and Conclusions. Analysis of the statistical data revealed that for third grade subjects, significant correlations were found between visual imagery and the following areas of reading comprehension: reading for information (tau = .21); reading for interpretation (tau = .28); reading for appreciation (tau = .30); literal comprehension (tau = .20); creative comprehension (tau = .31); and general comprehension (tau = .27). For the sixth grade group, significant correlations were found between visual imagery and reading for relationships (tau = .23), literal comprehension (tau = .22) and general comprehension (tau = .17). A significant difference ($Z = 2.2124$, $p < .05$, two-tailed) was found between the mean rank on the visual imagery test for the third grade group (mean rank = 50.66) and the mean rank on the visual imagery test for sixth graders (mean rank = 64.34).

It was concluded that the overall relationship between visual imagery and reading comprehension tends to be low, and the relationship is specific to only certain reading comprehension areas and varies for different grade groups. This research suggests that differences between the two groups of subjects in imagery ability is consistent with developmental trends noted in imagery research. It is further concluded that a considerable amount of investigation needs to be done to determine the precise nature of the relationship between visual imagery and different aspects of reading comprehension before any definite implications for classroom use become apparent.

THE EFFECT OF SOME ASPECTS OF SPATIAL RELATION AND ABSTRACT REASONING ON THE READING COMPREHENSION SCORES OF BLACK AND IRANIAN COLLEGE STUDENTS

Order No. 8106415

MASON, MILDRED VERNEDA, PH.D. *Michigan State University*, 1980. 92pp. Chairman: Walter F. Johnson, Director: Lawrence Lezotte

Problem. The purpose of this study was to investigate relationships between map-graph instruction, reading comprehension, abstract reasoning, and spatial relation scores of urban black and Iranian students. More specifically, the study attempted to ascertain the relationship between five dependent variables; namely, reading comprehension, vocabulary, decoding, abstract reasoning and spatial relation, with the following independent variables; female vs. male, black vs. Iranian, and treatment vs. nontreatment.

Procedure. The data collected for this study encompassed the time period from the Fall of 1977 through the Spring of 1978, and were based on the performance of college students enrolled in courses at a two-year Midwestern community college.

From a total population of eight hundred minority students enrolled in over fifty different classes, one hundred thirteen black and Iranian students in six classes were randomly selected to participate in the study. The six classes participating were selected from a class list of fifty, including every other class from the inner city site in one of two different types of reading programs: map-graph and remedial reading.

The *Stanford Diagnostic Reading Test* and the *Differential Aptitude Test* were utilized to preassess students' cognitive level, and subsequently, to determine the extent to which the instructional approach impacted students' reading comprehension, decoding, vocabulary, spatial relation, and abstract reasoning scores.

Utilizing a pre-post experimental design with comparable comparison groups, the data were analyzed by using an analysis of covariance to determine whether the intervention resulted in a statistically significant difference between the two groups. The three hypotheses, stated in the null form, were tested at the 0.05 level of confidence for statistical significance.

Results. Utilizing step down F tests, the data revealed that when viewing all five measures collectively, there were significant differences in the scores of students receiving map-graph vs. remedial reading instruction with the exception of abstract reasoning. This study also revealed that black students did not experience greater gains than Iranian students on the following dependent measures; comprehension, vocabulary, decoding, and spatial relation. And finally, this study determined that sex was not a significant factor impacting students' reading comprehension, decoding, vocabulary, spatial relation, and abstract reasoning scores.

AGE RELATED EFFECTS OF THE INTERACTION OF PRIOR KNOWLEDGE AND TEXT STRUCTURE ON THE RECALL OF PROSE

Order No. 8028193

MATHEWS, SAMUEL RAYMOND, II, PH.D. *The University of Wisconsin - Madison*, 1980. 114pp. Supervisor: Professor Steven R. Yussen

The structure of a text and prior knowledge about its contents have both been shown to impact on comprehension of that text. The present study was designed to assess the effects of those variables on comprehension and recall of text by subjects at two age levels--fourth and eighth grade. It was hypothesized that prior knowledge would have more of an impact on the fourth graders' performance than on that of the eighth graders. That impact would be manifested in recall of prior-knowledge-related information regardless of its location in the text structure.

In order to assess this effect, three groups at each grade were tested. Subjects in the prior knowledge group heard and mastered a passage on one day and then heard, freely recalled, and answered probe questions about a target passage on the next day. The prior knowledge passage and target passage were written so that information in the former was related to information in subordinate levels of the latter. An unrelated knowledge group heard and mastered a passage unrelated to the target materials on Day 1 and on Day 2 performed the same tasks as the prior knowledge group. A third group, a no knowledge control, participated only in the target passage tasks. That is, they heard, freely recalled, and answered probe questions about the same target passage, but with no prior information.

The predictions were that at the fourth grade, the prior knowledge group would have better recall of material from the subordinate levels of the target passage (that information being related to their prior knowledge) than the unrelated knowledge group. The unrelated knowledge group, following the prediction based on text structure, would have better recall of information at superordinate levels of the text than the prior knowledge group. The additional effect of practice or "warm-up" was assessed by comparing the performance of the no knowledge control with the performance of the unrelated knowledge group. For performance on the probe questions, any advantage would be in favor of the prior knowledge group, at both grades. This prediction was based on past research indicating a general facilitative effect of prior knowledge on probed recall.

The prediction of differential recall by the prior knowledge group and the unrelated group was supported at the fourth grade. That is, the prior knowledge group recalled significantly more information at the lowest level of subordination than did the unrelated knowledge group. The unrelated knowledge group recalled more information at the most superordinate level in the target passage than the prior knowledge group. This is consistent with a text structure hypothesis. At the fourth grade, the prior knowledge group generally performed better on the probe questions than did the unrelated knowledge group. At the eighth grade, no consistent differences in performance among the groups were detected. Additionally, performance on probe questions did not differ between groups at the eighth grade.

The accessibility (free recall) and availability (probe questions) of information by the fourth graders are both affected by prior knowledge. These effects are not present with the eighth graders. This difference between ages is consistent with the suggestion that children become more text bound in their comprehension as they move through the school years (Olson & Nickerson, Note 8).

AN INVESTIGATION OF THE COGNITIVE PROCESSES INVOLVED IN THE READING COMPREHENSION OF CHILDREN

Order No. 8100942

MILLER, VICKY LYNN, PH.D. *The University of Texas at Austin*, 1980. 123pp. Supervisor: William Rutherford

This dissertation research dealt with children who experience poor reading comprehension, though possessing adequate vocabulary and word recognition skills. The research examined whether children who can call the words but still not comprehend the message, process written material at the higher idea level necessary for adequate construction of meaning for text. The research also tested the effectiveness of a researcher-designed instructional technique for improving the comprehension performance of children.

The instructional technique, called the ACTIVATION technique was designed to activate the individual's appropriate mental structures prior to reading an informational passage in an effort to enhance the higher level processing and retention of information. The subjects were fifty sixth graders who had been identified and classified as good and poor comprehenders. Good comprehenders were defined as those who performed on grade level or better on both reading vocabulary and comprehension achievement measures. Poor comprehenders were defined as those who performed on grade level or above on reading vocabulary but performed at least one and one-quarter years below grade level on reading comprehension achievement measures. In an individual setting, both groups were administered the ACTIVATION technique in one of four treatment conditions and with one of four informational passages. Children read a passage and answered comprehension questions in each treatment condition.

Using a response-rating procedure, comprehension performance scores were obtained on each of the treatment conditions for each individual subject. The comprehension performance scores were then analyzed and compared both across treatment conditions and ability groups, and against expected performances based on previous comprehension performance measures. A 2 x 4 ANOVA was used to obtain main effects in conjunction with six orthogonal contrasts to clarify treatment effects and four one-way analyses to focus on group effects. Since an aptitude x treatment interaction was detected by the ANOVA, correlation and regression analyses were used to provide specificity for this main effect.

Findings indicated that the ACTIVATION technique was significantly effective for both good and poor comprehenders. The ACTIVATION technique was found to be particularly effective for the poor comprehenders. There was a statistically significant difference in the two groups' (good and poor) comprehension performance in all three of the treatment control conditions. However, there was not a statistical difference in the two groups' performance when the ACTIVATION technique was presented prior to the passage. This finding indicated that the poor comprehenders tended to act more like good comprehenders when administered the instructional technique. The subjects exhibited comprehension performances similar to what would be expected from their predictor (achievement test) scores in all treatment conditions except in the ACTIVATION prior treatment condition. In the ACTIVATION prior condition the individuals' observed comprehension performances were in very low correlation with their expected performances, indicating the source of the aptitude x treatment interaction.

The findings of this study were compatible with current theoretical research findings and principles. The findings suggest that perhaps the notion regarding poor comprehenders' failure to use their existing mental structures in processing written material at the idea level may be valid. The findings indicate the need for further examination regarding the nature of poor comprehenders, the effectiveness of instructional techniques and their long range usage, and the cognitive processing involved in the reading comprehension of children.

RELATIONSHIP OF DEEP STRUCTURE RECOVERY AND OTHER MEASURES OF READING COMPREHENSION

Order No. 8101453

MILLER, WILLIAM GENE, ED.D. *Northern Illinois University*, 1980. 172pp.

This study investigated the relationship of a linguistic-theory-based deep structure recovery instrument (the Sentence Meaning Inventory, or S.M.I.) and other measures of reading comprehension among urban black children. It was found that teachers' assessment of their students' reading skill was more highly correlated with the deep structure recovery scores ($.2106 < .05$ level of confidence) than with the other variables, Iowa Tests of Basic Skills (I.T.B.S.) reading comprehension subtest ($.1590 < .05$ level of confidence), I.T.B.S. vocabulary subtest ($.1076 < .05$ level of confidence), and reading mastery skill level (M.S.L.) scores, a locally developed measure of reading skill ($.1796 < .05$ level of confidence).

In a multiple regression analysis, it was found that sex was the only variable which provided a statistically significant addition to the S.M.I. scores for predicting teacher assessment scores. The intercorrelations between the deep structure (S.M.I.) scores and the other independent variables, I.T.B.S. reading comprehension subtest, I.T.B.S. vocabulary subtest, and M.S.L. were very similar to those of previous studies (Haynes, 1977; Manarino, 1977; Nessel, 1975; O'Donnell & King, 1974; Reynolds, 1974; Simons, 1970). The finding that girls scored higher than boys, and that sex was a predictor of reading success also agrees with the findings of previous studies (Dwyer, 1973; Kolczynski, 1973).

The S.M.I. instrument was designed to measure only the students' skill at determining the meaning of a sentence. The vocabulary level in the measure was well below the level expected for the subjects' reading levels in order to minimize the effect of vocabulary on the scores.

Assuming that teachers' assessment of their students' reading skill has reasonable validity, the results of this study suggest that a deep structure recovery measure may be a more useful method of assessing students' reading comprehension than the more widely used instruments which appear to measure a mixture of vocabulary and comprehension. Certainly, the results suggest that deep structure recovery measures should, at least, be added to the instruments presently employed to assess children's reading comprehension.

Since the sample (N = 599) in the study were urban black elementary school children, the foregoing conclusions may be more relevant for such children than for the population at large. The present study needs to be replicated with other groups before the results can be generalized to other populations.

THE EFFECT OF TWO TECHNIQUES WHICH ELICIT PREDICTIVE RESPONSES ON THE COMPREHENSION OF CONTENT AREA READING MATERIAL

Order No. 8103209

MURRAY, EDWARD THOMAS, JR., PH.D. *The University of Connecticut*, 1980. 92pp.

Nonvisual information affects the meaning that students derive from print. The present literature reflects theories that attempt to describe the relationship between the reader and the text. Two theories have strongly influenced this investigation into prereading strategies, the transactional theory of literature as described by Louise Rosenblatt (1978) and the model of comprehension as explained by Frank Smith (1978).

Lesson structure investigations and various methodologies which attempt to guide students through their content area texts provide little empirical support for prereading activities. This investigation, therefore, examines the effect of two prereading strategies involving prediction on student comprehension scores in secondary content area reading tasks. The anticipation guide is a technique that asks probing questions on the subject to be read with the intention of adjusting student schema and activating relevant prior knowledge. The brainstorming guide serves the same purpose but is designed differently. Its implementation places the onerous on the teacher to motivate, involve, and guide students' predictions for the purpose of enhancing comprehension of the content area text.

This research examines the interrelationships between the treatment groups and the dependent variables; the cloze test and a passage dependent multiple choice test. The research also examines the instructional effects of a prereading cloze passage on student comprehension. The study is guided by these questions: What relationship exists between the use of prediction strategies and student comprehension of content material? Can differences be measured by using a cloze passage comprehension test and a multiple choice passage dependent test?

The test population includes 72 tenth and eleventh grade students from a multi-ethnic, diversified socioeconomic population at an urban high school in Connecticut.

Analysis of variance design is used to test the hypotheses: (1) No significant differences exist at the $p < .05$ level among the means of reading comprehension scores of students on a passage dependent multiple choice test or a cloze test when grouped according to T_1 (anticipation guide), T_2 (brainstorming guide) and Control (no treatment). (2) No significant differences exist at the $p < .05$ level among the means of reading comprehension scores of students grouped according to C_1 (receiving a cloze test) and C_2 (not receiving a cloze test). (3) No significant interactions exist at the $p < .05$ level between T_1 (anticipation guide), T_2 (brainstorming guide) and Control (no treatment) and C_1 (receiving a cloze test) and C_2 (not receiving a cloze test) with respect to reading comprehension scores on the cloze test or the passage dependent multiple choice test.

Within the limits of the study it appears that the prereading treatments do the following: (1) Brainstorming guides apparently help students to comprehend their textbooks, to become actively involved in the reading process, and to mobilize prior knowledge and activate relevant schema. (2) Anticipation guides may enhance comprehension when used with appropriate classes. (3) Prereading cloze may be used more effectively as a measure of readability than a prereading instructional device.

The findings indicate that students may comprehend more when they are adequately prepared for the reading task. Even though the text used in the study was written at a readability level that was too difficult for the classes, the brainstorming strategy had a positive effect on passage dependent comprehension scores. Therefore, it is concluded that instructional practices should contain elements that allow for the mobilization of prior knowledge schema adjustment techniques. These techniques should be designed so that students are obligated to make predictions about the content of the material that they are to find in their text books.

THE EFFECTS OF TWO LEVELS OF PASSAGE INTEREST AND TEST ITEM/PROGRAM MISMATCH ON READING COMPREHENSION SCORES OF FIFTH AND SIXTH GRADE STUDENTS IN REMEDIAL READING PROGRAMS

Order No. 8029519

NEMKO, MARTIN NATHAN, PH.D. *University of California, Berkeley*, 1980. 133pp.

Two criteria are frequently used to select tests for evaluating remedial reading programs: (1) that there be a high degree of match between the focus of the test items and the focus of such programs, and (2) that the test passages be of high interest to the examinees taking the test. The major purpose of this study was to investigate the validity of these two criteria.

First, items were selected from eight widely used standardized reading comprehension tests to create four new tests: (1) high interest passages/high match items, (2) high interest/low match, (3) low interest/high match, and (4) low interest/low match. The high and low match items were selected by the investigator and two associates. The high and low interest passages were selected by 50 low SES 5th and 6th graders in remedial reading programs. Fifty other low and 50 high SES remedial reading students were then randomly assigned to take one of the four tests enumerated above plus the nonverbal section of the Lorge-Thorndike Intelligence Test.

The mean high match test score was more than a standard deviation higher than the mean low match test score, a statistically significant difference. The author then reviewed a number of standardized reading comprehension tests to find that the percentage of these difficult low match items in the first-third grade level tests is fairly small, but by the 6th grade level, increases to 50-70% depending on the test. Since remedial reading students tend to obtain low and therefore unreliable scores on such tests, the author concludes that program evaluators should be increasingly reluctant to use the on-grade level standardized test with remedial readers as their grade level increases because the percentage of difficult low match items increases with the test level.

A significant difference in mean scores between high and low interest tests was not found. However, other analyses suggested that passage interest may indeed have an effect on reading comprehension scores. For example, while the high interest tests had high correlations with the CTBS reading comprehension test and the Lorge-Thorndike Intelligence Test as is consistent with previous investigations correlating such measures, the low interest tests had significantly lower correlations with these variables. The potential importance of passage interest in affecting reading comprehension scores was also supported by the finding that 26 of the 29 items omitted by subjects were in low interest tests. It is hypothesized that the failure to obtain an effect on mean scores was the result of a lack of time limit in the testing. Examinees who proceeded slowly because of lack of interest and attention were able to complete all items which would be less likely if there were a time limit.

An analysis of the interest ratings of the 27 standardized reading comprehension test passages revealed three major findings: (1) test passages generally were found interesting. In a test situation, the average passage was rated "interesting" by 67% of examinees. (2) On average, low SES examinees found the passages slightly *more* interesting than high SES examinees. (3) There appeared to be an SES x passage difficulty interaction in passage interest ratings in which low SES examinees found easy passages more interesting while high SES examinees found difficult passages more interesting.

In sum, the author concludes that standardized reading comprehension tests on an examinee's instructional level may be acceptable for evaluating remedial reading programs. It is recommended that future standardized reading comprehension tests be developed with greater efforts taken to ensure passage interest. One way this could be achieved is by a passage interest rating question during the test tryout phase of test development and eliminating passages with low ratings.

ATTAINMENT OF PIAGET'S FORMAL OPERATIONAL LEVEL IN MATHEMATICS RELATIVE TO ETHNIC GROUP AND READING ABILITY

Order No. 8110708

SAMPSON, GILBERT LANE, PH.D. *New York University*, 1980. 127pp. Chairman: Professor Edward M. Carroll

The present study, using a tri-ethnic sample of black, white, and Indian subjects, investigated the age interval put forth in Piaget's theory of cognitive development indicating that formal operational level of thought begins around age 11-12 and culminates around 15-16 years of age, and sought to determine if there was a significant correlation between age and reading ability for formal operational thought.

The sample for the study consisted of 315 subjects, equally divided among blacks, whites, and Indians who were equally stratified by age from 11 to 17 years of age.

Gray's *Test of Logical Thinking* (1973) and the reading component of the *Comprehensive Tests of Basic Skills* (CTBS) were selected for use in the study. The *Test of Logical Thinking* is a 36-item paper and pencil test of Piagetian oriented tasks of exclusion, proportion, and combination. From the correct responses on the test, subjects were classified relative to one of the attainment levels of beginning concrete (C1), concrete (C2), beginning formal (F1), and formal (F2). On the CTBS, the reading component's total reading score was obtained for each subject and expressed as an expanded standard score.

The data were analyzed according to the following research questions: (1) Is there an age at which the majority of the subjects in the present sample will attain Piaget's formal operational level of thought for the tasks of exclusion, proportion, and combination? (2) Is there a relation between age and reading ability when the attainment level for cognitive development is held constant? (3) Is there a difference in the attainment of Piaget's formal operational level of thought among black, white, and Indian subjects?

The analysis of the data relative to research question one revealed that at no age did a majority of the subjects attain formal operational level for each of the tasks of exclusion, proportion, and combination.

Relating to research question two, a Pearson Product Moment correlation coefficient was computed between age and total reading score for each task with attainment level held constant. All twelve correlations were positive and significant at the .05 level. The correlations ranged from .437 to .897. Thus, age correlates positively with reading ability when attainment level is held constant.

The analysis of variance technique was utilized to analyze the data relative to research question three. A significant difference in the mean number of subjects among the tasks of exclusion, proportion, and combination was found at each attainment level when tested at the .05 level of significance. A Duncan Multiple Range Test for significant differences was then utilized, and it was found that the mean number of black subjects at the formal operational level was significantly lower than the mean number of white and Indian subjects who did not differ significantly from each other. At the concrete level, the mean number of subjects for each ethnic group was significantly different from each other with blacks having the greatest mean and Indians the lowest.

The findings of the study revealed that for the present sample there was a "time lag" in the attainment age interval for formal operations. At the concrete and formal operational levels, age correlates significantly with reading ability. Finally, there were differences among ethnic groups with respect to the proportion attaining concrete and formal operational levels, but the differences were not due to developmental factors in Piaget's theory of cognitive development.

SOME EFFECTS OF SYNTAX ON COMPREHENSION: A PSYCHOLINGUISTIC STUDY

Order No. 8118377

SIDES, CHARLES HOBART, III, PH.D. *University of Massachusetts*, 1981. 284pp. Director: Professor Walker Gibson

The results of a series of cloze-recall tests suggest certain trends in the effects which syntax has on reader comprehension. For these tests, an original selection of writing was rewritten in six different structural styles: right-branching or cumulative; left-branching or periodic; mid-branching using centrally embedded modifiers; inverted; passive voice; and parallel structure. Test subjects, college student volunteers between the ages of eighteen and twenty-two, were allowed five minutes to read one of the stylistic versions of the original or, as a control, the original itself. Following the reading, the subjects were given five minutes to answer questions based on the style they had read. The results of these tests were analyzed according to the following statistical procedures: simple analysis of variance and analysis of covariance, both at a .05 alpha level; least significant difference; Duncan's Multiple Range test; and Scheffe's test. The results of these analyses, though not statistically significant for reasons which are discussed in the dissertation, do suggest trends which, upon further research, should prove useful to the educator and the researcher alike. As an example, the results for the most part supported the conclusions reached by Fodor, Bever, Kintsch, Keenan, and others in earlier research; i.e., passive constructions tended to be more difficult to comprehend than active constructions. However, interesting and potentially important extensions of earlier research were also suggested: cumulative styles appeared to be more difficult to comprehend than teachers of writing have been led to believe, while centrally embedded styles, though laborious to process, seemed in some instances to promote reader comprehension. The possible reasons for and effects of these observations are discussed.

In addition to the tests, questionnaires were circulated to writing teachers at five separate colleges; these questionnaires were designed to complement the tests--though in a subjective and evaluative way. I intended to discover opinions and nuances which might lead to future research on comprehension and believability. Insofar as the questionnaires suggested that teachers of writing tended to believe formal style (which can be associated with bureaucratese) much more readily than informal style, they succeeded in identifying areas of needed research.

The contributions of the present study can be summarized as follows: (1) structural simplicity may not always be the best guarantee of reader comprehension, especially when simplicity negates the integrity of conceptually complex subject material; (2) the believability of formal style may permeate the entire societal structure, even the ivory towers of college writing instruction; (3) the present-day assumptions of writing instruction need to be reexamined, based on the observations above. All in all, future study should be conducted to validate of invalidate these observations.

THE EFFECTIVENESS OF A SELECTED SET OF STUDY AIDS ON READING COMPREHENSION OF FIFTH AND SIXTH GRADERS

Order No. 8102423

STEINER, DONOVAN D., PH.D. *Southern Illinois University at Carbondale*, 1980. 255pp. Major Professor: Terry R. Shepherd

Purpose. The purpose of this study was to investigate the differential effects of a selected set of study aids used in combination in written instructive material upon comprehension and retention scores of fifth and sixth graders.

Methodology. A posttest and post-posttest random control group design with three levels of stratification (upper third, middle third, and lower third) was used. 84 students received Treatment #1 which consisted of paragraph structure aids, study guide material, maze technique activities, and multiple-choice items. 80 students in Treatment #2 received only one type of paragraph structure aids (internal organization aids), multiple-choice items, and placebo material. Answers for all seatwork activities appropriate to the treatment were provided to Treatment #1 and Treatment #2 subjects for purposes of self correction and feedback. A total of twenty-one seatwork lessons, one per day, were presented over a four week and one day period. Data were analyzed by t-tests.

Findings. The findings of this study showed significant differences at the .05 level for upper third and middle third achievers in favor of Treatment #1, but no significant difference for lower third achieving pupils on posttest criterion measures. Also, a significant difference at the .05 level was found for Treatment #1 entire group (upper third, middle third, and lower

third) on posttest criterion measures. Findings on post-posttest measures were significant at .025 and .05 respectively for upper third and middle third groups in Treatment #2. In addition, a significant difference at .05 level was found for Treatment #1 entire group on post-posttest criterion measures. No significant difference was found for lower third achievers at .05 level on post-posttest criterion measures.

Conclusions. This study concluded that a set of study aids used in combination can be used to increase comprehension abilities of fifth and sixth graders who rank in middle and upper third reading ability levels. Recommendations were made for more effectively designed seatwork activities which assist the reader in gaining meaning from written instructive material.

DIFFERENTIAL EFFECTS OF THE CONCEPTUAL LEVEL MATCHING MODEL IN A STRUCTURED VERSUS UNSTRUCTURED READING COMPREHENSION TASK WITH A POPULATION OF LEARNING DISABLED STUDENTS

Order No. 8104885

SURBER, JAMES MARION, ED.D. *Ball State University*, 1979. 120pp.
Adviser: Dr. L. Stanley Wenck

The focus of this study was the testing of the Conceptual Level Matching Model with a population of learning disabled (LD) children. The students selected for use in this study consisted of an equal number of students in the high and low CL groups ranging between 13 and 15 years of age.

The final sample included 35 males and five females whose IQ's ranged between 80 and 117. These students were attending public school special education LD resource rooms in Anderson, Indiana. The students, selected on the basis of their chronological age, were divided into two groups according to their score on the Paragraph Completion Test. Thus, comparisons were observed among and between the two experimental groups. A statistical analysis of those attributes on which the students were grouped revealed no significant differences between groups on measures of chronological age, full scale IQ and reading comprehension scores.

The results were generated from the administration of the Paragraph Completion Test (PCT) and the Analytical Reading Inventory (ARI). The PCT was used to assign students to either the high or low group who were in turn randomly assigned to either the structured or unstructured group to form the final four experimental groups. All students were then administered three graded paragraphs from the ARI; intended to measure their level of reading comprehension.

T-tests were initially used to test for significant differences between the two groups in terms of chronological age, IQ, and reading comprehension scores. A two-way factorial analysis of variance was used to test differences between means for the four experimental groups.

The hypothesis predicting a significant difference between the two main groups on the ARI was supported by the data. It was concluded that LD students high in conceptual level (CL) can be expected to perform significantly better than low CL students on a reading comprehension task.

A significant difference was also shown between the low CL group taught in a highly structured fashion and the low CL group taught in an unstructured fashion; with the structured group performing significantly better. However, the third hypothesis which predicted that the high CL group taught in an unstructured fashion would perform better than the high CL group taught in a structured fashion was not supported by the data. In fact the results showed a trend in the opposite direction, with the high CL group-structured performing better than the high CL group-unstructured.

The data also supported the hypothesis that the high CL group would perform significantly better on the cause and effect, inferential, and conclusion reading comprehension questions on the ARI than the low CL group. However, these results should be interpreted with caution because of the high level of overall significance between the high and low CL groups. Therefore, these results may not be a reflection of the type of question asked but of the overall superiority of the high CL group.

Recommended avenues of investigation for future research is cited as follows: (a) replication of the study with equal numbers of females to permit greater generalization of the results; (b) evaluation of the CL of LD teachers to see if they prefer to teach in a highly structured fashion which is consistent with the way low CL students prefer to learn; (c) structuring an LD student's learning environment on a long term basis; (d) study of the environment that would allow LD students low in CL to move to the next higher stage of development; and (e) development of an instrument that can be used to measure the CL of younger children.

THE EFFECTS OF POSTREADING QUESTIONS ON CHILDREN'S DISCOURSE COMPREHENSION AND KNOWLEDGE ACQUISITION

Order No. 8104555

WIXSON, KAREN KRING, PH.D. *Syracuse University*, 1980. 99pp.

The major purpose of this investigation was to determine, within a schema-theoretic framework, the effect of three different types of postreading questions on children's comprehension and learning from text. It was hypothesized that different types of postreading questions would promote different interactions between the information suggested by the text and the information provided by the reader's existing knowledge. Further, these differences in reader-text interactions were expected to result in different modifications of the schemata previously constructed by the reader to account for the text. Therefore, it was predicted that the schematic state at the time of recall would differ from that at the time of comprehension as a function of the type of postreading questions received by the reader.

The subjects were 111 average and above average fifth grade readers from a middle class suburb of Syracuse, New York. Subjects were randomly assigned to one of four groups during the first of two group testing sessions. Each subject was required to read one of seven 165-175 word nonnarrative passages and write the answers to six postreading questions. Subjects assigned to the experimental groups received either textually explicit, textually implicit, or scriptally implicit postreading questions. Subjects assigned to the control group received postreading questions which were unrelated to the stimulus passages. One week later, subjects were required to write a free recall of the passage that they had read the previous week and write the answers to six general questions which were designed to probe their understanding of the passage information.

Stimulus passages and readers' recalls were analyzed using discourse analysis procedures and classified according to a scoring system developed for use in this investigation. A post test only, completely randomized design was used. Primary data analyses were carried out using multivariate and univariate analysis of variance procedures.

As predicted, different types of postreading questions resulted in different modifications of the knowledge structures generated by the children during comprehension. A comparison of the effects of treatment versus control questions indicated that the knowledge structures which resulted from an interaction with postreading questions that were related to the text included larger proportions of textually explicit information and smaller proportions of information derived from the readers' prior knowledge. The knowledge structures generated by children who received the three types of treatment questions contained similar proportions of textually explicit information, whereas the proportion of inferred information varied as a function of the amount of interaction, or inferencing, required by the different types of postreading questions. Children who interacted with explicit postreading questions produced smaller proportions of inferred information than those who interacted with implicit postreading questions. Further, at least half of the plausible information contained in the knowledge structures generated by children in the treatment conditions was information that was directly addressed by the questions. Thus, it appears that different types of postreading questions have a direct effect on the knowledge structures constructed by children to account for a particular text.

It was argued that knowledge is acquired through the inferential processing which results from the interaction between reader and text. The results of this research suggest that different types of postreading questions promote different reader-text interactions, which result in differences in learning from text. It appears that the learning of explicit information is facilitated by both explicit and implicit postreading questions. However, explicit questions result in significantly less inferential processing than either implicit or unrelated postreading questions. In conclusion, it appears that verbatim postreading questions actually inhibit the extent to which children integrate the information suggested by the text with their existing knowledge.

EFFECT OF INFERENCE-MAKING AIDS ON POOR READERS' COMPREHENSION Order No. 8105383

YOUNG, PETEY, PH.D. *The University of Wisconsin - Madison*, 1980. 203pp. Supervisor: Professor Wayne Otto

The effect of adjunct aids on comprehension of expository text by seventh-grade poor readers was investigated. The adjunct aids were activities designed to invite readers to make inferences required in order to understand the text, a 1300-word passage on the Kalahari Desert. Kintsch's (1974) system of discourse analysis was used to analyze the text in order to (1) identify where to aim activities, and (2) write test items designed to assess comprehension of the passage. A multiple-choice test and a recognition test were written on the passage and validated prior to the main data collection. These were administered (1) immediately after treatment or control procedures, and (2) again two weeks later. Scores from these four tests were used to assess the comprehension of four treatment and two control groups, each containing 22 subjects.

Two treatment groups received activities with graphic locational aids, one simultaneously with the reading and one after an initial reading of text. Two treatment groups received the same activities without graphic aids, one simultaneously with and one after reading. The two control groups did not receive activities. One control group read the text for as long as the subjects wished. The other read for approximately as long as the average time the treatment groups spent reading and doing activities.

When the combined performances of the four treatment groups were contrasted with the combined performances of the two control groups (Hypothesis 1), one-way analyses of variance showed that the treatment groups outperformed the control groups at a $p < .001$ level of significance. The inference-making activities were concluded to be effective at increasing comprehension with these subjects and materials. When the combined performances of the groups who received activities after reading the text were contrasted with the combined performances of the groups who received activities and text simultaneously (Hypothesis 2), one-way analyses of variance showed that the former outperformed the latter at a $p < .001$ level of significance. The presentation of activities after text was read was concluded to be a critical factor in enhancing comprehension by means of inference-making activities. When the combined performances of the groups who did not receive graphic locational aids were contrasted with the combined performances of the groups who did (Hypotheses 3), significant differences were generally not found. Embellishing the activities with graphic locational aids was concluded to be unimportant in facilitating comprehension by means of inference-making activities.

Scheffé procedures, in which pairs of treatment groups were contrasted with individual control groups, and one-way analyses of variance of scores from the activity-specific and activity-irrelevant items in the multiple-choice test confirmed the findings from the testing of the three hypotheses.

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